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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,172	07/22/2003	Alan W. Hayman	GP-301053	6856

7590 07/22/2004

CHRISTOPHER DEVRIES
General Motors Corporation
Legal Staff, Mail Code 482-C23-B21
P.O. Box 300
Detroit, MI 48265-3000

EXAMINER

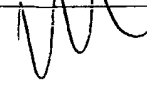
DOLINAR, ANDREW M

ART UNIT	PAPER NUMBER
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3747

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/624,172	HAYMAN, ALAN W. 	
	Examiner	Art Unit	
	Andrew M. Dolinar	3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 4, 5 and 10-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Marshall et al (US 6,637,394 B2). As shown in FIG. 4, a starting cycle (strokes A, B, C, D) wherein fuel is not supplied and the intake and exhaust valves are operated so as to inherently provide a wasted power stroke and a wasted compression stroke. See column 5, lines 1-18.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al (US 6,637,394 B2) in view of the conventional four cylinder engine as set forth on page 4 of applicant's specification. Marshall et al discloses the claimed invention except for the opening of an exhaust valve of a second cylinder. As shown in FIG. 4, a starting cycle (strokes

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A, B, C, D) wherein fuel is not supplied and the intake and exhaust valves are operated so as to inherently provide a wasted power stroke and a wasted compression stroke. See column 5, lines 1-18. Applicant's specification teaches a conventional stroke pattern of a four cylinder four stroke engine, which is presumed to be prior art in the absence of evidence to the contrary. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the engine of Marshall et al as a four cylinder engine, as is admitted by applicant to be conventional, in order to apply the starting cycle of Marshall et al to a specific engine. The combination would inherently provide opening of an exhaust valve of a second cylinder as claimed.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al (US 6,637,394 B2) in view of the conventional four cylinder engine as set forth on page 4 of applicant's specification as applied to claims 1 and 3 above, and further in view of Jones (US 5,101,780). Jones teaches the use of solenoid engine valves (column 3, lines 12-15), which are operated independently of engine timing as defined by applicant. It would further have been obvious to one having ordinary skill in the art at the time the invention was made to modify the engine of Marshall et al by substituting solenoid engine valves, as taught by Jones, in order to simplify the valve actuating structure.

Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al (US 6,637,394 B2) in view of Jones (US 5,101,780). Marshall et al discloses the claimed invention as stated above except for valves operated independently of engine timing. Jones teaches the use of solenoid engine valves (column 3, lines 12-15), which are operated independently of engine timing as defined by applicant. It would have been obvious to one


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having ordinary skill in the art at the time the invention was made modify the engine of Marshall et al by substituting solenoid engine valves, as taught by Jones, in order to simplify the valve actuating structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M. Dolinar whose telephone number is (703) 308-1948. The examiner can normally be reached on Mon. - Thu. 7:45 - 6:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on (703) 308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Andrew M. Dolinar
Primary Examiner
Art Unit 3747

AMD